MA 33L(89)-1

Insulated Wire and Cable

1989

U.S. Department of Commerce
BUREAU OF THE CENSUS

MA33L(89)-1
Issued October 1990

SUMMARY OF FINDINGS

In 1989, the total value of manufacturers' shipments of insulated wire and cable increased by 23 percent to $11,204 million from the 1988 level of $10,319 million. Electronic wire and cable increased by 7 percent to $1,904 million from the 1988 level of $1,772 million. Telephone and telegraph wire and cable increased by 1 percent to $1,525 million compared to $1,522 million in 1988. Power wire and cable increased by 20 percent to $1,869 million compared to $1,563 million in 1988. In 1989, control and signal wire and cable increased by 10 percent to $246 million compared to the preceding year's figure of $223 million. Building wire and cable increased by 10 percent to $2,446 million from the 1988 level of $2,224 million. Other insulated wire and cable increased by 8 percent to $585 million compared to $541 million in 1988. Apparatus wire and cordage and flexible cordage decreased by 5 percent to $891 million from the 1988 level of $849 million. Magnet wire had a value of shipments for 1989 of $1,086 million, a 9-percent increase over the 1988 value of $996 million. Optical fiber cable showed a 3-percent increase in 1989 shipments of $652 million as compared to 1988 with a $630 million value.

Adescription of the survey methodology and related information appears on page 8.

Table 1. SUMMARY OF SHIPMENTS OF INSULATED WIRE AND CABLE: 1989 AND 1988

(Value in thousands of dollars)

Product code	Product description	1989	1988
	Insulated wire and cable	11,204,433	10,319,004
3357A --	Electronic wire and cable	1,903,834	1,772,104
3357B --	Telephone and telegraph wire and cable	1,525,274	1,521,525
33578 --	Power wire and cable	1,869,364	1,563,285
3357C --	Control and signal wire and cable	245,666	223,009
3357D --	Building wire and cable	2,445,736	2,224,494
33576 --	Apparatus wire and cordage	891,665	848,565
3357E --	Other insulated wire and cable	585,463	540,541
33577 --	Magnet wire	1,085,673	995,574
33579 --	Optical fiber cable	651,758	629,907

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Robert Wright, (301) 763-5547.

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Table 2. SHIPMENTS OF INSULATED WIRE AND CABLE: 1989 AND 1988

(Copper content in thousands of pounds; value in thousands of dollars)

Product code	Product description	Number of companies	Shipments, including interplant transfers[1]			
			1989		1988	
			Copper content[2]	Value	Copper content[2]	Value
3357- pt.	Insulated wire, except magnet wire and optical fiber..	(NA)	2,515,476	9,467,002	2,474,438	8,693,523
3357A --	Electronic wire and cable	(NA)	188,243	1,903,834	195,700	r1,772,104
	Coaxial cable, armored or unarmored:					
3357A 10	Rigid	7	a2,808	a14,510	r2,551	10,552
3357A 12	Semirigid	14	5,270	251,991	r5,817	r208,662
	Flexible:					
3357A 13	135°C and over	17	2,689	36,509	r2,728	r40,618
3357A 14	Under 135°C	29	19,246	240,729	r19,608	274,589
3357A 16	CATV/broadcast coaxial cable	5				
3357A 22	Antenna lead-in wire	11	5,793	288,723	r5,802	r167,452
	Hook-up wire (single conductor, shielded and non-shielded):					
3357A 23	135°C and over temperature rating	27	13,948	207,937	r15,850	r215,126
3357A 25	Under 135°C temperature rating	43	22,352	119,141	25,837	r117,348
	Multiconductor electronic wire and cable (shielded and nonshielded).					
3357A 30	Flat and ribbon cable	21	28,106	82,337	30,993	102,439
	Other multiconductor electronic wire and cable:					
	Shielded:					
3357A 31	135°C and over temperature rating	17	33,825	279,151	38,573	268,543
3357A 33	Under 135°C temperature rating	31	37,455	260,119	40,175	312,212
	Nonshielded:					
3357A 35	135° and over temperature rating	10	2,552	35,796	1,875	16,815
3357A 37	Under 135°C temperature rating	22	14,199	86,891	r5,891	37,748
3357B --	Telephone and telegraph wire and cable	(NA)	507,952	1,525,274	r476,813	r1,521,525
3357B 41	Jumper and distributing frame wire	7	(D)	44,091	9,600	46,530
3357B 43	Station wire and cable	14	6,547	20,824	4,780	15,862
3357B 72	Switchboard wire and cable	7	(D)	(D)	(D)	(D)
3357B 73	Telephone cord sets and cordage	8	1,326	72,565	1,231	64,329
3357B 52	Inside wiring cable	18	90,639	159,741	r68,849	r146,450
3357B 55	Drop and bridle and duct wire	5	(D)	131,900	(D)	110,594
3357B 68	Rural and urban distribution wire and cable	5	1,385	18,644	3,662	43,441
	Polyethylene covered exchange area and toll cable:					
3357B 83	Thermoplastic (PIC) insulated	9	304,419	862,764	r297,366	r864,421
3357B 86	Paper and (pulp) insulated	3	(D)	(D)	(D)	(D)
3357B 90	Other telephone and telegraph wire and cable	8	(D)	29,823	(D)	28,702
3357E --	Power wire and cable	(NA)	329,146	1,869,364	r292,479	1,563,285
3357E 07	Paper insulated cable (all voltages, all types)	3	19,868	86,609	17,475	59,191
	Plastic and rubber insulated:					
	600 volts or less:					
3357E 08	Portable welding cable	13	22,755	63,272	19,845	54,157
3357E 09	Portable molded and nonmolded cable and cord	10	41,994	179,833	r25,984	117,983
3357E 17	Underground distribution cable (UD, URD)	11	13,323	278,930	r10,297	245,520
3357E 19	Thermoplastic insulated power cable	14	14,252	61,154	13,007	47,712
	Thermoset insulated:					
3357E 20	Armored, rubber and cross-linked	7	13,669	46,601	10,944	31,983
3357E 21	Unarmored, rubber	8	17,887	55,102	16,279	47,166
3357E 22	Unarmored, cross-linked	9	12,514	46,429	12,498	37,369
3357E 25	Weatherproof cable	9	11,338	24,178	r10,154	22,475
3357E 27	Service drop cable, thermoset insulated	7	2,952	91,697	4,262	80,032
3357E 28	Service drop cable, thermoplastic insulated	8	4,898	58,188	3,518	46,723
	Over 600 volts:					
3357E 32	Portable molded rubber sheathed cable (mine shovel cable)	6	8,237	29,394	7,449	25,326
3357E 35	Portable nonmolded cable	4	589	2,486	492	2,077
3357E 37	Underground distribution cable (UD, URD), all insulations (jacketed and unjacketed)	8	64,157	458,811	r61,074	r393,657
3357E 39	Thermoplastic insulated power cable (excluding underground	5	3,403	18,166	3,935	15,706
	Thermoset insulated power cable (excluding underground					
	Over 600 volts to 15kv:					
3357E 41	Armored, rubber and cross-linked	7	13,787	66,723	12,276	50,391
3357E 42	Unarmored, rubber	8	42,193	193,155	36,012	151,828
3357E 43	Unarmored, cross-linked	8	16,418	68,309	16,786	64,022
	Over 15 kv:					
3357E 44	(Rubber and cross-linked)	6	3,615	33,212	r5,303	r36,500
3357E 50	Other power wire and cable	8	1,297	7,115	r1,011	r5,560
3357C --	Control and signal wire and cable	(NA)	40,921	245,666	r39,352	r223,009
3357C 11	Signal wire and cable	21	19,887	123,945	r16,941	r108,287
	Control wire and cable (excluding elevator cable):					
3357C 14	Thermoset insulated	12	9,605	68,262	10,833	64,510
3357C 17	Thermoplastic insulated	16	11,429	53,459	11,578	r50,212

See footnotes at end of table.

Table 2. SHIPMENTS OF INSULATED WIRE AND CABLE: 1989 AND 1988--Continued

(Copper content in thousands of pounds; value in thousands of dollars)

Product code	Product description	Number of companies	Shipments, including interplant transfers[1]			
			1989		1988	
			Copper content[2]	Value	Copper content[2]	Value
33570 --	Building wire and cable	(NA)	1,089,633	2,445,736	1,121,419	2,224,494
	Building wire and cable having underwriters' labels:					
	Thermoset insulated:					
33570 36	Rubber (R, RH, RHH, RHW, USE, etc.)	2				
33570 37	Cross-linked polyethylene (XHHW)	14	62,102	151,655	r61,920	126,681
33570 38	Cross-linked polyethylene (USE)	11	26,281	69,652	r29,672	66,263
	Thermoplastic insulated:					
33570 40	Flame-retardant nylon (THHN, THWN)	20	536,257	1,088,649	526,137	939,596
33570 41	Moisture resistant (TW)	7	457	1,053	1,011	1,733
33570 48	Moisture and heat resistant (THW)	15	92,017	152,372	r124,633	r190,383
33570 51	Service entrance cable (SER, SEU, ASE)	12	17,064	117,112	r18,650	113,771
	Nonmetallic branch-circuit and underground feeder:					
33570 54	Type NM	11	299,784	649,397	r302,674	589,794
33570 55	Type UF and NMC (corrosion resistant)	12	23,838	67,334	r25,231	r62,957
33570 57	Metallic armored cable (all AC types)	7	29,569	140,716	30,099	123,412
33570 58	Other building wire and cable	9	2,264	7,796	1,392	9,904
33576 --	Apparatus wire and cordage[3]	(NA)	199,170	891,665	r198,996	848,565
	Flexible cordage:					
33576 13	Thermoset insulated	12	14,027	62,932	13,465	58,521
33576 15	Thermoplastic (including thermoplastic elastomers)	15	17,516	56,144	r24,775	82,822
33576 42	Extension cord sets	12	28,604	210,069	27,470	r193,439
33576 43	Fixed power supply cords	24	28,490	155,107	r24,258	r125,731
33576 44	Detachable power supply cords	6	4,006	41,511	r8,325	r45,236
33576 47	Retractile power cords and other	8	42,409	148,717	38,750	r143,980
33576 21	Appliance fixture wire	25				
	Appliance wiring material 14 gauge and larger (including motor lead and transformer lead wire):					
33576 23	Thermoset insulated	10	14,659	42,077	r11,166	r37,231
33576 24	Thermoplastic insulated	21	37,764	108,980	37,420	94,171
33576 28	Submersible pump cable	11	5,810	15,817	4,548	11,053
33576 29	Other apparatus wire and cordage (including machine tool wire)	19	5,885	50,311	r8,819	r56,401
3357E --	Other insulated wire and cable	(NA)	160,411	585,463	r149,679	r540,541
	Automotive:					
3357E 72	Bulk automotive primary wire	16	91,943	212,442	85,381	192,006
3357E 74	Bulk battery cable	9	11,521	26,086	10,472	25,788
3357E 76	Bulk ignition wire	8	1,568	61,693	1,208	55,867
3357E 78	Other automotive wire and cable	11	22,428	73,467	r21,490	r68,856
3357E 15	Elevator hatch and traveling cable	2	(D)	(D)	(D)	(D)
	Airframe, shipboard and ground support cable (excluding coaxial cable and ignition cable):					
3357E 79	Airframe and missile (including ground support cable)	17	3,491	66,216	r5,685	r52,043
	Shipboard cable:					
3357E 87	Military applications	11	6,770	47,686	7,191	45,448
3357E 88	Nonmilitary applications	-	-	-	-	-
3357E 98	Other insulated or covered wire and cable n.e.c.	27	13,930	74,065	13,159	82,592

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text): [a]25 percent of this item is estimated.

- Represents zero. (D) Data withheld to avoid disclosing figures for individual companies. (NA) Not available. N.e.c. Not elsewhere classified. pt. Part. [r]Revised by 5 percent or more from previously published figures.

[1]Interplant transfers for 1989 totaled 329,742 thousands of dollars and for 1988 totaled 285,020 thousands of dollars. See table 6 for additional data.

[2]Aluminum content for 1989 totaled 331,375 thousands of pounds and for 1988 totaled 338,786 thousands of pounds. See table 3 for additional data.

[3]Data include the following: (a) all known establishments which insulate wire and cable and then fabricate into finished products, (SIC product class 33576), and (b) a sample from product class 3699b, of establishments manufacturing appliance wire, cord, and flexible cord sets from purchased insulated wire.

Table 3. ALUMINUM CONTENT OF SELECTED INSULATED WIRE AND CABLE: 1989 AND 1988

(Thousands of Pounds)

Product code	Product description	Number of companies	1989	1988
3357- pt.	Insulated wire, except magnet wire	(X)	331,375	r338,786
33578 17	Underground distribution cable--600 volts or less	11	120,278	119,059
33578 25	Weatherproof cable	5	(D)	(D)
33578 27	Service drop cable, thermoset insulated	5	40,095	40,862
33578 28	Service drop cable, thermoplastic insulated	5	22,744	21,698
33578 37	Underground distribution cable--over 600 volts	8	48,425	r54,983
33578 43	Thermoset insulated cable--unarmored, cross-linked--over 600 volts to 15KV	5	4,324	5,075
3357D 37	Cross-linked polyethylene (XHHW)	4	29,552	26,817
3357D 38	Cross-linked polyethylene (USE)	5	15,819	15,963
3357D 48	Moisture and heat resistant (THW)	3	(D)	(D)
3357D 51	Service entrance cable (SER, SEU, ASE)	4	30,481	32,447

(D) Data withheld to avoid disclosing figures for individual companies. pt. Part. rRevised by 5 percent or more from previously published figures. (X) Not applicable.

Table 4. COPPER SHIPMENTS OF MAGNET WIRE, INCLUDING INTERPLANT TRANSFERS: 1989 AND 1988

(Copper gross weight in thousands of pounds; value in thousands of dollars)

Product code	Product description	Number of companies	Shipments, including interplant transfers[1]			
			1989		1988	
			Gross weight	Value	Gross weight	Value
33577 --	Magnet wire	(NA)	529,207	978,680	r525,317	892,986
33577 03	Insulated magnet sheet, strip, and foil	1	(2)	(2)	(2)	(2)
33577 07	Film coated, 45 AWG and finer (all classes)	5	(2)	(2)	(2)	(2)
33577 pt.	Film coated, (44 to 7 AWG and larger)	(NA)	499,909	914,689	493,821	831,811
33577 1-	Class 105	(NA)	75,719	111,037	77,595	102,528
33577 11	7 AWG and larger round (also all square and rectangle)	4	12,992	23,574	14,201	23,269
33577 13	8 to 21 AWG inclusive	7	43,686	52,572	43,491	47,912
33577 15	22 to 32 AWG inclusive	7	17,479	30,406	18,129	26,452
33577 17	33 to 44 AWG inclusive	7	1,562	4,485	r1,774	r4,895
33577 2-	Class 130	(NA)	47,643	104,832	r47,791	96,120
33577 21	7 AWG and larger round (also all square and rectangle)	-	-	-	15,803	28,244
33577 23	8 to 21 AWG inclusive	5	10,387	21,068	r24,740	r45,984
33577 25	22 to 32 AWG inclusive	11	31,502	62,919	7,248	21,892
33577 28	33 to 44 AWG inclusive	9	5,754	20,845	64,151	128,723
33577 3-	Class 155	(NA)	59,157	130,988	-	-
33577 32	7 AWG and larger round (also all square and rectangle)	-	-	-	15,080	23,185
33577 34	8 to 21 AWG inclusive	5	12,962	21,073	37,475	72,854
33577 37	22 to 32 AWG inclusive	9	35,139	76,388	11,596	32,684
33577 38	33 to 44 AWG inclusive	7	11,056	33,527	75,805	126,072
33577 4-	Class 180	(NA)	70,700	108,791	44,435	63,046
33577 41	7 AWG and larger round (also all square and rectangle)	1	41,760	46,922	28,694	54,731
33577 43	8 to 21 AWG inclusive	7			2,676	8,295
33577 45	22 to 32 AWG inclusive	11	26,446	53,350	210,964	342,797
33577 47	33 to 44 AWG inclusive	10	2,494	8,519	26,815	49,973
33577 5-	Class 200	(NA)	224,924	414,072	131,816	206,395
33577 52	7 AWG and larger round (also all square and rectangle)	4	27,779	54,048	51,091	82,246
33577 54	8 to 21 AWG inclusive	7	138,377	243,183	1,242	4,183
33577 56	22 to 32 AWG inclusive	9	57,669	112,876	17,515	35,571
33577 58	33 to 44 AWG inclusive	6	1,099	3,965		
33577 6-	Class 220	(NA)	21,766	44,769		
33577 61	7 AWG and larger round (also all square and rectangle)	3				
33577 63	8 to 21 AWG inclusive	4				
33577 65	22 to 32 AWG inclusive	4	21,766	44,769	17,515	35,571
33577 67	33 to 44 AWG inclusive	1				
33577 79	Miscellaneous film coated n.e.c.	4				
33577 pt.	Nonfilm coated (fibrous and tape)	(NA)	229,298	464,191	231,496	461,175
	Class 130 and below	(NA)	213,941	229,197	213,374	222,814
33577 81	Fibrous	5	213,941	229,197	213,374	222,814
33577 83	Tape	4				
	Class 155 and above	(NA)	15,357	34,994	18,122	38,361
33577 85	Fibrous	5	12,152	27,050	r14,721	r30,380
33577 87	Tape	4	3,205	7,944	r3,401	r7,981

- Represents zero. (NA) Not available. pt. Part. rRevised by 5 percent or more from previously published figures.

[1] Interplant transfers for 1989 totaled 72,868 thousands of pounds of copper and for 1988 totaled 73,553 thousands of pounds of copper.

[2] Data for insulated magnet sheet, strip, and foil are included with nonfilm coated, class 130 and below to avoid disclosing individual company data.

Table 5. ALUMINUM SHIPMENTS OF MAGNET WIRE, INCLUDING INTERPLANT TRANSFERS: 1989 AND 1988

(Aluminum gross weight in thousands of pounds; value in thousands of dollars)

Product code	Product description	Number of companies	Shipments, including interplant transfers[1]			
			1989		1988	
			Gross weight	Value	Gross weight	Value
33577 --	Magnet wire	(NA)	49,092	106,993	47,174	r102,588
33577 pt.	Film coated, (44 to 7 AWG and larger)	(NA)	45,822	100,146	43,821	r95,103
33577 1-	Class 105	8	19,625	43,417	17,761	r36,437
33577 2-	Class 130	5				
33577 3-	Class 155	7	11,798	24,996	12,084	26,775
33577 4-	Class 180	4				
33577 5-	Class 200	7	14,399	31,733	13,976	31,891
33577 6-	Class 220	4				
33577 pt.	Other types of magnet wire (nonfilm coated; insulated magnet sheet, strip, and foil; and film coated, 45 AWG and finer)	5	3,270	6,847	3,353	7,485

(NA) Not available. pt. Part. rRevised by 5 percent or more from previously published figures.

[1] Interplant transfers for 1989 totaled 20,819 thousands of pounds of aluminum and for 1988 totaled 19,230 thousands of pounds of aluminum.

Table 6. VALUE OF INTERPLANT TRANSFERS OF SELECTED INSULATED WIRE AND CABLE: 1989 AND 1988

(Thousands of dollars)

Product code	Product description	Number of companies	1989	1988
3357- pt.	Insulated wire, except magnet wire	(X)	329,742	r285,026
3357A --	Electronic wire and cable	18	78,491	r93,035
3357B --	Telephone and telegraph wire and cable	6		
3357S --	Power wire and cable	8	102,041	59,396
3357C --	Control and signal wire and cable	3	15,009	r9,902
3357D --	Building wire and cable	3		
33576 --	Apparatus wire and cordage	10	74,152	75,190
33576 21	Appliance fixture wire	4	13,644	12,181
33576 24	Appliance wiring material--thermoplastic insulated	5	15,264	10,811
3357E --	Other insulated wire and cable	9	60,049	r47,503
3357E 74	Bulk battery cable	3	(D)	(D)
3357E 76	Bulk ignition wire	4	(D)	(D)

(D) Data withheld to avoid disclosing figures for individual companies. pt. Part. rRevised by 5 percent or more from previously published figures. (X) Not applicable.

Table 7. VALUE OF SHIPMENTS OF FIBER OPTIC CABLE: 1989 AND 1988

(Thousands of dollars)

Product code	Product description	Number of companies	1989	1988
33579 --	Insulated optical fiber cable	(X)	651,758	629,907
33579 pt.	Communication applications	(X)	624,190	r607,180
33579 12	Single-mode stepped-index, dispersion shifted	5	12,895	14,041
33579 13	Single-mode stepped-index, dispersion unshifted	13	537,058	r532,061
33579 14	Multi-mode stepped index	5	74,237	r61,078
33579 15	Multi-mode graded index	16		
33579 21	Other applications	7	27,568	r22,727

pt. Part. rRevised by 5 percent or more from previously published figures. (X) Not applicable.

Table 8. COMPARISON OF VALUES OF SHIPMENTS OF INSULATED WIRE AND CABLE, AS REPORTED IN THE MA33L, THE 1987 CENSUS OF MANUFACTURES, AND THE 1988 ANNUAL OF SURVEY MANUFACTURES

(Value in thousands of dollars)

Product code	Product description	1988			1987	
			Annual Survey of Manufactures			
		MA33L	Value	Standard error of estimates[1]	MA33L	Census of Manufactures[2]
3357A	Electronic wire and cable	1,772.1	(NA)	(NA)	1,661.6	1,574.2
3357B	Telephone and telegraph wire and cable	1,521.5	(NA)	(NA)	1,464.1	1,435.6
3357C	Control and signal wire and cable	223.0	(NA)	(NA)	220.7	191.9
3357D	Building wire and cable	2,224.5	(NA)	(NA)	1,889.5	1,885.5
3357E	Other insulated wire and cable	540.5	(NA)	(NA)	531.6	510.9
33576, 36996[3]	Apparatus wire and cordage	848.6	(NA)	(NA)	849.4	1,056.2
33577	Magnet wire	995.6	(NA)	(NA)	702.8	708.1
33578	Power wire and cable	1,563.3	(NA)	(NA)	1,201.4	1,159.9
33579	Fiber optic cable	630.0	(NA)	(NA)	606.6	557.3

(NA) Not available.

[1] The annual survey of manufactures percentage standard errors shown are the approximate relative errors of the estimates of level. A more detailed description of the standard error of estimate is given in the introduction of the annual survey of manufactures, Value of Product Shipments, M86(AS)-2, under "Qualifications of the Data."

[2] Source: 1987 Census of Manufactures, MC87-I-33D.

[3] See footnote 3 at end of table 2.

Table 9. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF INSULATED WIRE AND CABLE: 1989 AND 1988

(Value in thousands of dollars)

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise[1]		Percent exports to manufacturers' shipments	Imports for consumption[4,5]	Apparent consumption[6]	Percent imports to apparent consumption
			Value at port[2]	Estimated producers' value[3]				
	1989							
	Insulated wire and cable	11,204,433	989,396	879,573	7.9	1,228,409	11,553,269	10.6
3357A	Electronic wire and cable	1,903,834	117,210	104,200	5.5	112,014	1,911,648	5.9
3357B	Telephone and telegraph wire and cable	1,525,274						
3357B	Power wire and cable[7]	1,859,364						
3357D	Building wire and cable	2,445,736						
3357C	Control and signal wire and cable	245,666	819,808	728,809	8.4	1,101,060	9,021,092	12.2
3357E	Other insulated wire and cable	585,463						
33576	Apparatus wire and cord and flexible cord							
36996	sets	891,665						
33577	Magnet wire	1,085,673						
33579	Optical fiber cable	651,758	52,378	46,564	7.1	15,335	620,529	2.5
	1988							
	Insulated wire and cable	10,319,004	667,354	593,279	5.7	1,096,708	10,822,433	10.1
3357A	Electronic wire and cable	1,772,104	142,031	126,266	7.1			
3357B	Telephone and telegraph wire and cable	1,521,525	56,928	50,609	3.3			
3357B	Power wire and cable[7]	1,563,285	69,292	61,601	3.9			
3357D	Building wire and cable	2,224,494	12,832	11,408	5.1			
3357C	Control and signal wire and cable	223,009	317,691	282,427	37.0	1,096,708	10,822,433	10.1
3357E	Other insulated wire and cable	540,541						
33576	Apparatus wire and cord and flexible cord							
36996	sets	848,565	41,108	36,545	4.3			
33577	Magnet wire	995,574	27,472	24,423	2.5			
33579	Optical fiber cable	629,907	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

[1] Source: Bureau of the Census data relating to EM 522, U.S. Exports (see table 10 for a comparison of SIC-based codes and import and export numbers).

[2] This dollar value represents the c.i.f. (cost, insurance, and freight) value to port of export.

[3] These values are derived by use of adjustment factors to exclude freight, insurance, and other charges incurred in moving goods to the port of export. This adjustment is made to convert the values to an approximation of the producers' value of exported goods. Current adjustment factors are based on data for 1986 which are published in Export from Manufacturing Establishments, AR86-1, Appendix B. The f.o.b. adjustment factor for this report is 0.8890.

[4] Source: Bureau of the Census data relating to IM 145, U.S. Imports for Consumption. These figures include both import value and duty value.

[5] These import data include other items such as Christmas tree lights, ignition harness sets, ignition wiring sets, etc.

[6] Apparent consumption is derived by subtracting exports from the total of manufactures shipments plus imports (including duty). Estimated producers' value is used in the calculation of these data.

[7] The manufacturers' shipments for power wire and cable include mineral and paper insulated cable, while the export figures do not.

Table 10. COMPARISON OF STANDARD INDUSTRIAL CLASSIFICATION-BASED PRODUCT CODES WITH SCHEDULE B EXPORT NUMBERS, AND HTSUSA IMPORT NUMBERS: 1989

Product code	Product description	Export number[1]	Import number[2]
3357A 10 3357A 12 3357A 13 3357A 14 3357A 16 3357A 22	Coaxial cable, armored or unarmored, electronic.....	8544.20.0000	8544.20.0000
3357A 23 3357A 25 3357A 30 3357A 31 3357A 33 3357A 35 3357A 37 3357B 00 33578 00 3357C 00 3357D 00 33576 00 3357E 00 33577 00	All other insulated wire and cable except coaxial and optical cable.....	8544.11.0020 8544.11.0030 8544.11.0050 8544.19.0000 8544.41.0000 8544.49.0000 8544.51.0000 8544.59.2040 8544.59.2080 8544.59.4000 8544.60.2000 8544.60.4000 8544.60.6000	8544.11.0020 8544.11.0030 8544.11.0050 8544.19.0000 8544.41.0000 8544.49.0000 8544.51.4000 8544.51.8000 8544.59.2040 8544.59.2080 8544.59.4000 8544.60.2000 8544.60.4000 8544.60.6000
33579 12 33579 13 33579 14 33579 15 33579 21	Optical fiber cable.....	8544.70.0000	8544.70.0000

[1]Source: 1989 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

[2]Source: Harmonized Tariff Schedule of the United States, Annotated (1989).

DESCRIPTION OF SURVEY

Scope of Survey. This survey covers companies engaged in manufacturing insulated wire and cable and/or fabricating appliance wire, cord, or flexible cordage from purchased insulated wire.

Survey Methodology. The statistics in this publication were collected by mail on Bureau of the Census annual Form MA33L, Insulated Wire and Cable. The survey panel includes all known insulators of wire and cable, as well as the largest producers of appliance wire, cord, and flexible cord sets from purchased insulated wire as measured by the dollar value of shipments from the 1987 Census of Manufactures. No estimate is included for the smaller fabricators. The total number of companies is approximately 220.

Reliability of Data. Survey error may result from several sources: (1) inability to obtain information about all cases in the survey; (2) response errors; (3) definitional difficulties; (4) differences in the interpretation of questions; (5) mistakes in recording or coding the data obtained; and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which fail logic edits. Missing figures are imputed based on yearly movements shown by reporting firms. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

Revisions to Previous Period Data. Statistics for previous years may be revised as the result of corrected data from respondents, late reports for which imputations were made as described above, or other corrections. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

Revisions include changes to prior period data resulting from reconciliation of the results of this survey with the 1987 Census of Manufactures to correct differences in reported data between the two series and to identify and verify new establishments included in the scope of this survey. Table 8 presents a comparison of data from the two series by census product class following the reconciliation.

Adjustment for Price Change. All dollar figures included in this publication are in current dollars; i.e., they have been adjusted for price change.

EXPLANATION OF TERMS

Quantity and Value of Shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable sales to unaffiliated customers; i.e., the value includes an appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Gross Weight. Includes insulating materials but excludes packaging materials.

AWG. American Wire Gauge.

Dual Rated Products. All dual rated products are classified according to their highest ratings.

Multi-Insulated Cables. All multi-insulated cables are classified according to their primary insulation, i.e., the layer of material designed to do the electrical insulating, usually the first layer of material applied over the conductor.

Insulated Wire and Cable. All insulated wire and cable for transmitting electrical energy, signals, or communications. Excludes bare and tinned wire and cable and Aluminum Cable Steel Reinforced (ASCR).

Magnet Wire (Including Insulating Magnet Strip Conductor). All insulated wire of the type generally used in the winding of coils, including Litz wire and including insulating magnet sheet, strip, and foil. The thermal classification for bondable wires are determined by the underlying insulation. Also, the combination (film fabric) product is classified based on the insulation on the top side.

Electronic Wire and Cable. All single and multiconductor wire and cable used for transmission, reception, or reproduction of electrical frequencies (16 gauge and smaller). Excludes telephone cable. See "apparatus wire and cable" for larger gauges.

Telephone Wire and Cable. All wire and cables used in the telephone industry to transmit, receive, and monitor communications signals. Excludes coaxial and other electronic wire and cable.

Power Wire and Cable. All insulated wire and cable used for the transmission and distribution of electrical energy. Excludes communications, aircraft, and marine types.

Control and Signal Wire and Cable. All insulated wire and cable used to transmit signals to control and actuate relays, valves, servo-mechanisms and related devices, including traffic control cable and fire alarm cable. Excludes elevator hatch and traveling cable.

Building Wire and Cable. All wire and cable (600 volts or less) having UL labels, used within structures for light and power.

Apparatus Wire and Cordage. Insulated wire and cable used in connecting electrical apparatus to a power source, and appliance wiring material (14 AWG and larger) used for internal wiring. See "electronic wire and cable" for appliances wiring material smaller than 14 AWG.

Other Insulated Wire and Cable. Includes bulk automotive battery and ignition wire, elevator hatch and traveling cable, airframe, shipboard, and ground support cable.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The trade comparisons shown in this report should be considered only as approximations. Several problems prevent precise comparisons among imports, exports, and domestic output. These problems include the following:

- Export and import comparisons do not account for the origin of materials used to manufacture the finished product. Domestic output includes any goods that undergo substantial transformation into a finished product in the U.S., even if the goods are partially constructed abroad or are constructed of imported materials.
- There will be a lag between the time a producer makes or ships a product and the time it is actually exported. Similarly, there may be a lag between the time a product is imported and when it enters into U.S. distribution channels.
- The basic structure of these classification systems differ. The Standard Industrial Classification (SIC) system used for domestic output was developed independently of the Harmonized System (HS) used to classify imports and exports. The level of detail provided by the different systems varies substantially, reflecting their different objectives. For example, there are a number of imported commodities that have no comparable domestic output classification.
- Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of domestic output data for such commodities may contain some duplication.
- Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory of the 50 States, the District of Columbia, and Puerto Rico. Domestic output reflects activity in the 50 States and, only if specified, in Puerto Rico.
- Import and export data generally do not distinguish between new, used or rebuilt commodities.
- The valuation of the three data sets differ. Domestic output is valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, and excludes freight charges and excise taxes. Exports are valued at the point of exportation. It includes the net sales price or value, and inland freight, insurance and other charges to the export point. Imports are valued at the first port of entry in the United States. They include the cost, insurance, freight, duty, and other charges to the import point.
- Detailed commodity information is not included for individual export or import shipments at or below a certain dollar limit. This dollar limit is $1,500 for exports and $1,000 for imports, except for import of textiles and textile products, gloves, footwear, and miscellaneous rubber and plastics products, where the limit is $250.

HISTORICAL NOTE

Data on insulated wire have been collected by the Bureau of the Census since 1965. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library. A list of these libraries may be obtained from the Bureau of the Census regional offices:

Office	Telephone
Atlanta, Georgia	(404) 347-2271
Boston, Massachusetts	(617) 565-7100
Charlotte, North Carolina	(704) 371-6142
Chicago, Illinois	(312) 353-6251
Dallas, Texas	(214) 767-0621
Denver, Colorado	(303) 286-2200
Detroit, Michigan	(313) 226-7742
Kansas City, Kansas	(913) 236-3728
Los Angeles, California	(213) 209-6616

New York, New York	(212) 264-3860
Philadelphia, Pennsylvania	(215) 597-4920
Seattle, Washington	(206) 442-7800

Historical data are also available on microfiche. For further information contact the Bureau of the Census, Data User Services Division, (301) 763-4100.

RELATED REPORTS

The Bureau of the Census publishes the following related reports:

Series	Frequency	Title
Current Industrial Reports		
M33D	Monthly	*Aluminum Ingot and Mill Products*
Other Industry Reports		
M3-1	Monthly	*Manufacturers' Shipments, Inventories, and Orders*
(AS)	Annually	Annual Survey of Manufactures (ASM)
(MC)	Quin-quennially	Census of Manufactures
Foreign Trade Reports		
EM 522 FT 446	Monthly Annually	*U.S. Exports—Schedule B—Commodity by Country*
IM 145 FT 246	Monthly Annually	*U.S. Imports for Consumption—HTSUSA—Commodity by Country*

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone Number
Current Industrial Report MA33L	Robert Wright	(301) 763-5547
Manufacturers' Shipments, Inventories, and Orders	Ruth Runyan	(301) 763-2502
Classification Systems Comparability	Francis McCormick (ESD)	(301) 763-1935
Foreign Trade	Trade Data Inquiries Staff (FTD)	(301) 763-5140
Census/ASM	Mendel Gayle	(301) 763-7123
International Trade Administration	Robert C. Reiley	(202) 377-0575
To order a Current Industrial Report	Superintendent of Documents (GPO)	(202) 783-3238
To subscribe to a Census Bureau publication	Superintendent of Documents (GPO)	(202) 275-3054

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